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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/543,079	TSURUOKA, TAKAO	
	Examiner	Art Unit	
	MEKONNEN DAGNEW	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. This is the first Office action regarding application number 10/543,079 which was filed on 01/20/2004.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive

material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory (See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035).

3. **Claims 16-18** are rejected under 35 U.S.C. 101 because claims 16-18 recites “an image processing program for processing, by means of a computer” the program itself is not a process; therefore the invention as claimed is non-statutory. The claimed invention is directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 12, and 15-16** are rejected under 35 U.S.C. 102(e) as being anticipated by Kakarala (US 7,015,961 B2).

Regarding claim 1, Kakarala teaches an image pickup system for processing an image signal at each pixel which is composed of more than one color signals and one or more of the color signals are dropped out according to the location of the pixel (see Figs. 8 and 9, column 11, lines 1-67) comprising: first interpolation means for interpolating the color signals dropped-out from the image signals by a first interpolation method (see Figs. 9, the first interpolation takes place in element 600; column 11, lines 1-67); precision verification means for verifying the interpolation precision on the basis of the image signals and the color signals interpolated by the first interpolation means (see Figs. 9, the verification means 920 of Fig. 9 checks if there are any defective pixels i.e. if the first interpolation is sufficient or insufficient; column 11, lines 1-67); and second interpolation means for interpolating the color signals dropped-out from the image signals by a second interpolation method that is different from the first interpolation method in cases where it is judged that the interpolation precision by the first interpolation method is insufficient (see Figs. 9, once the verification means 920 checks the precision of the first

interpolation and there are still defective pixels, it does a second interpolation in step 930 and the process continues; column 11, lines 1-67).

Regarding claim 12, Kakarala further teaches control means that can control such that the operation of the precision verification means and the operation of the second interpolation means are stopped (see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are no defective pixels, it does not perform a second interpolation in step 930 if there are no defective pixels in step 920; when it finally outputs the pixels without any defect that have gone through the first interpolation process in step 910; the verification means and the second interpolations means are not activated i.e. stopped).

Regarding claim 15, Kakarala further teaches the control means comprises information acquisition means for acquiring at least one type of information selected from a set comprising image quality information relating to the image quality of the image signals means (see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are still defective pixels, by checking whether there are defective pixels or not, it is checking the quality of the image in step 920; column 11, lines 1-67. The output 940 is selected when it finally outputs the pixels without any defect that have gone through the first interpolation process in step 910), image pickup mode information set in the image pickup system, and interpolation processing switching information that can be manually set, and judgment means for judging whether or not the operations are to be stopped on the basis of at least one type of information selected from a set comprising the image quality information, image pickup mode information, and interpolation processing switching information means (see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are still defective pixels, it

does not perform a second interpolation in step 930 if there are no defective pixels in step 920; column 11, lines 1-67. The output 940 is selected when it finally outputs the pixels without any defect that have gone through the first interpolation process in step 910).

Regarding claim 16, all the limitations are addressed in claim 1. Moreover, Kakarala discloses an image processing program for processing an image signal at each pixel which is composed of more than one color signals and one or more of the color signals are dropped out according to the location of the pixel (see column 5, lines 10-25).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 4-7 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakarala (US 7,015,961 B2) in view of Maenaka (5,552,827).

Regarding claim 4, Kakarala teaches the first interpolation means or second interpolation means comprises, interpolation signal calculation means for calculating a plurality of interpolation signals relating to predetermined directions from the pixels of interest within the regions,

Kakarala does not teach extraction means for extracting regions of a predetermined size centered on pixels of interest from the image signals, edge extraction means for extracting a plurality of edge intensities relating to predetermined directions from the pixels of interest within the regions, weighting calculation means for calculating weighting coefficients that are normalized from the edge intensities and calculation means for calculating the dropped-out color signals in the pixels of interest on the basis of a plurality of weighting coefficients relating to the predetermined directions and a plurality of interpolation signals relating to the predetermined directions

However, Maenaka et al. teaches extraction means for extracting regions of a predetermined size centered on pixels of interest from the image signals, edge extraction means for extracting a plurality of edge intensities relating to predetermined directions from the pixels of interest within the regions (see column 1, lines 1-57; column 2, lines 1-35), weighting calculation means for calculating weighting coefficients that are normalized from the edge intensities and calculation means for calculating the dropped-out color signals in the pixels of interest on the basis of a plurality of weighting coefficients relating to the predetermined directions and a plurality of interpolation signals relating to the predetermined directions (see Fig. 2, element 74 and column 1, lines 1-57; column 2, lines 1-35).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kakarala with the teachings of Maenaka et al. to extract a plurality of edge intensities relating to a predetermined direction from the regions of interest and for calculating the dropped-out color signals. The motivation to do so would have been to

prevent a false color signal from being produced as taught by Maenaka et al. (see column 2, lines 1-7).

Regarding claim 5, Kakarala as modified further teaches the first interpolation means or second interpolation means comprises extraction means for extracting regions of a predetermined size centered on pixels of interest from the image signals (see Kakarala Fig. 9 column 2, lines 1-35 and column 3, lines 45-55), and calculation means for calculating the dropped-out color signals in the pixels of interest within the regions by linear interpolation or cubic interpolation (see Kakarala column 1, lines 25-40).

Regarding claim 6, Kakarala as modified further teaches characterized in that the first interpolation means or second interpolation means comprises extraction means for extracting regions of a predetermined size centered on pixels of interest from the image signals (see Kakarala Fig. 9 column 2, lines 1-35 and column 3, lines 45-55), correlation calculation means for determining as a linear equation the correlation between the respective color signals within the regions as a linear equation, and calculation means for calculating the dropped-out color signals on the basis of the image signals and the correlation (see Maenaka Fig.1, element 60; column 2, lines 1-54; and column 4, lines 1-15; column 8, lines 1-55).

Regarding claim 7, Kakarala as modified further teaches the precision verification means comprises correlation calculation means for determining correlation information relating to the correlations between the respective color signals for each predetermined region on the basis of the image signals and the color signals interpolated by the first interpolation means (see Kakarala Figs. 9, the verification means 920 of Fig. 9 checks if there are any defective pixels i.e.

if the first interpolation is sufficient or insufficient; column 11, lines 1-67), and correlation verification means for verifying the interpolation precision on the basis of the correlation information (see Maenaka Fig.1, element 60; column 2, lines 1-54; and column 4, lines 1-15; column 8, lines 1-55).

Regarding claim 9, Kakarala as modified further teaches the precision verification means (see Kakarala Figs. 9, the verification means 920 of Fig. 9 checks if there are any defective pixels i.e. if the first interpolation is sufficient or insufficient; column 11, lines 1-67) comprises edge calculation means for determining edge information for each predetermined region on the basis of the image signals and the color signals interpolated by the first interpolation means, and edge verification means for verifying the interpolation precision on the basis of the edge information (see column 1, lines 1-57; column 2, lines 1-35).

7. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kakarala (US 7,015,961 B2) in view of Acharya et al. (US 7,053,944 B1).

Regarding claim 8, Kakarala teaches the precision verification means comprises determining information for each pixel on the basis of the image signals and the color signals interpolated by the first interpolation means, and hue verification means for verifying the interpolation precision on the basis of the information.

Kakarala does not teach hue calculation means for determining hue information for each pixel.

However, Acharya et al. teaches hue calculation means for determining hue information for each pixel (see column 2, lines 20-50; column 3, lines 3-15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kakarala with the teachings of Acharya et al. to use the hue information and verify the precision based on the information. The motivation to do so would have been to produce high- quality color images from a subsampled color image that is better than simple color interpolation techniques as taught by Acharya et al. (see column 2, lines 1-7).

8. **Claims 2, 10, 13 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okisu (6, 091, 862) in view of Kakarala (US 7,015,961 B2).

Regarding claim 2, Okisu teaches an image pickup system for processing an image signal at each pixel which is composed of more than one color signals and one or more of the color signals are dropped out according to the location of the pixel, comprising: separation means for separating the image signals into first image signals and second image signals on the basis of predetermined characteristics relating to the image signals (see Fig. 3, element 15; column 4, lines 10-67) first interpolation means for interpolating the dropped-out color signals from the first image signals by a first interpolation method (see Fig. 3, element 16; column 4, lines 10-67); second interpolation means for interpolating the dropped-out color signals from the second image signals by a second interpolation method that is different from the first interpolation means (see Fig. 3, element 17 i.e. the border interpolation is second interpolation method that is different from the first interpolation method ; column 4, lines 10-67);

Okisu does not teach precision verification means for verifying the interpolation precision on the basis of the first image signals and the color signals interpolated by the first interpolation means for the regions of the first image signals, and verifying the interpolation precision on the basis of the second image signals and the color signals interpolated by the second interpolation means for the regions of the second image signals; and adjustment means for causing interpolation processing of the dropped-out color signals to be performed again from the image signals by the second interpolation means when insufficient interpolation was performed by the first interpolation means, and for causing interpolation processing of the dropped-out color signals to be performed again from the image signals by the first interpolation means when insufficient interpolation was performed by the second interpolation means, in cases where it is judged that the interpolation precision is insufficient.

However, Kakarala teaches precision verification means for verifying the interpolation precision on the basis of the first image signals and the color signals interpolated by the first interpolation means for the regions of the first image signals(see Figs. 9, the verification means 920 of Fig. 9 checks if there are any defective pixels i.e. if the first interpolation is sufficient or insufficient; column 11, lines 1-67), and verifying the interpolation precision on the basis of the second image signals and the color signals interpolated by the second interpolation means for the regions of the second image signals (see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are still defective pixels, it does a second interpolation in step 930 and the process continues; column 11, lines 1-67); and adjustment means for causing interpolation processing of the dropped-out color signals to be performed again from the image signals by the second interpolation means when insufficient interpolation

was performed by the first interpolation means, and for causing interpolation processing of the dropped-out color signals to be performed again from the image signals by the first interpolation means when insufficient interpolation was performed by the second interpolation means, in cases where it is judged that the interpolation precision is insufficient(see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are still defective pixels, it does a second interpolation in step 930 and the process continues; column 11, lines 1-67. Moreover, the verification continues from the second interpolation to the first interpolation and vice versa until the desired precision level is achieved).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Okisu with the teachings of Kakarala to interpolate the dropped out signals using two different types of interpolation and verify the precision. The motivation to do so would have been to suppress the color moiré generated at edge portions and prevent the edge portions from being jagged and minimize the edge portions from exhibiting extreme variations as taught by Okisu (see column 1, lines 40-52 and column 2, lines 1-7).

Regarding claim 10, Okisu as modified further teaches the separation means comprises edge calculation means for determining edge information (see Fig. 3, element 15; column 4, lines 10-67; column 6, lines 40-67) for each predetermined region from the image signals, and image signal separation means for separating the image signals on the basis of the edge information (see Fig. 3, element 15; column 4, lines 10-67).

Regarding claim 13, Okisu as modified further teaches control means that can control such that the operation of the precision verification means and the operation of the adjustment

means are stopped (see Kakarala Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are no defective pixels, it does not perform a second interpolation in step 930 if there are no defective pixels in step 920; when it finally outputs the pixels without any defect that have gone through the first interpolation process in step 910; the verification means and the second interpolations means are not activated i.e. stopped).

Regarding claim 17, all the limitations are addressed in claim 2. Moreover, Kakarala discloses an image processing program for processing an image signal at each pixel which is composed of more than one color signals and one or more of the color signals are dropped out according to the location of the pixel (see column 5, lines 10-25).

9. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Okisu and Kakarala as applied to claim 2 above, and further in view of Maenaka et al. (5,552,827).

Regarding claim 11, Kakarala and Okisu teach the precision verification means comprises correlation calculation means for determining correlation information relating to the correlations between the respective color signals for each predetermined region on the basis of the image signals and the color signals interpolated by the first interpolation means (see Kakarala Figs. 9, the verification means 920 of Fig. 9 checks if there are any defective pixels i.e. if the first interpolation is sufficient or insufficient; column 11, lines 1-67),

Kakarala and Okisu do not explicitly teach correlation verification means for verifying the interpolation precision on the basis of the correlation information

However, Maenaka teaches correlation verification means for verifying the interpolation precision on the basis of the correlation information (see Maenaka Fig.1, element 60; column 2, lines 1-54; and column 4, lines 1-15; column 8, lines 1-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kakarala and Okisu with the teachings of Maenaka to verify the precision using the correlation information. The motivation to do so would have been to prevent a false color signal from being produced as taught by Maenaka et al. (see column 2, lines 1-7).

10. **Claims 3, 14 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okisu (6, 091, 862) in view of Kakarala (US 7,015,961 B2).

Regarding claim 3, Okisu teaches an image pickup system for processing an image signal at each pixel which is composed of more than one color signals and one or more of the color signals are dropped out according to the location of the pixel, comprising: separation means for separating the image signals into first image signals and second image signals on the basis of predetermined characteristics relating to the image signals (see Fig. 3, element 15; column 4, lines 10-67) first interpolation means for interpolating the dropped-out color signals from the first image signals by a first interpolation method (see Fig. 3, element 16; column 4, lines 10-67); second interpolation means for interpolating the dropped-out color signals from the second image signals by a second interpolation method that is different from the first

interpolation means (see Fig. 3, element 17 i.e. the border interpolation is second interpolation method that is different from the first interpolation method ; column 4, lines 10-67);

Okisu does not teach precision verification means for verifying the interpolation precision on the basis of the first image signals and the color signals interpolated by the first interpolation means for the regions of the first image signals, and verifying the interpolation precision on the basis of the second image signals and the color signals interpolated by the second interpolation means for the regions of the second image signals; and adjustment means for causing interpolation processing of the dropped-out color signals to be performed again from the image signals by the second interpolation means when insufficient interpolation was performed by the first interpolation means, and for causing interpolation processing of the dropped-out color signals to be performed again from the image signals by the first interpolation means when insufficient interpolation was performed by the second interpolation means, in cases where it is judged that the interpolation precision is insufficient.

However, Kakarala teaches precision verification means for verifying the interpolation precision on the basis of the first image signals and the color signals interpolated by the first interpolation means for the regions of the first image signals(see Figs. 9, the verification means 920 of Fig. 9 checks if there are any defective pixels i.e. if the first interpolation is sufficient or insufficient; column 11, lines 1-67), and verifying the interpolation precision on the basis of the second image signals and the color signals interpolated by the second interpolation means for the regions of the second image signals (see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are still defective pixels, it does a second interpolation in step 930 and the process continues; column 11, lines 1-67); and adjustment

means for causing interpolation processing of the dropped-out color signals to be performed again from the image signals by the second interpolation means when insufficient interpolation was performed by the first interpolation means, and for causing interpolation processing of the dropped-out color signals to be performed again from the image signals by the first interpolation means when insufficient interpolation was performed by the second interpolation means, in cases where it is judged that the interpolation precision is insufficient (see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are still defective pixels, it does a second interpolation in step 930 and the process continues; column 11, lines 1-67. Moreover, the verification continues from the second interpolation to the first interpolation and vice versa until the desired precision level is achieved); and selection means for selecting color signals having a higher interpolation precision between the color signals interpolated by the first interpolation means and the color signals interpolated by the second interpolation means (see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are still defective pixels, it does a second interpolation in step 930 and the process continues; column 11, lines 1-67. The output 940 is selected when it finally outputs the pixels without any defect; it selects the one with the highest precision).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Okisu with the teachings of Kakarala to interpolate the dropped out signals using two different types of interpolation and verify the precision. The motivation to do so would have been to suppress the color moiré generated at edge portions and prevent the edge portions from being jagged and minimize the edge portions from exhibiting extreme variations as taught by Okisu (see column 1, lines 40-52 and column 2, lines 1-7).

Regarding claim 14, Okisu as modified further teaches control means that can control such that the operation of the second interpolation means and the operation of the precision verification means are stopped, and that can control such that when these operations are stopped, the selection means is caused to select only the color signals that are interpolated by the first interpolation means (see Figs. 9, once the verification means 920 checks the precision of the first interpolation and there are still defective pixels, it does not perform a second interpolation in step 930 if there are no defective pixels in step 920; column 11, lines 1-67. The output 940 is selected when it finally outputs the pixels without any defect that have gone through the first interpolation process in step 910).

Regarding claim 18, all the limitations are addressed in claim 3. Moreover, Kakarala discloses an image processing program for processing an image signal at each pixel which is composed of more than one color signals and one or more of the color signals are dropped out according to the location of the pixel (see column 5, lines 10-25).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Adams, Jr. et al. (5,506,619) teaches adaptive interpolating means for missing pixels and selecting the one with the highest precision by comparing it with a predetermined threshold and if the precision value is greater than or equal to the threshold, then the default interpolation is selected (see column 4, lines 30-67).

12. ***Contacts***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEKONNEN DAGNEW whose telephone number is (571)270-5092. The examiner can normally be reached on Monday-Thursday, 8AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571)272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MD
August 14, 2008

/Lin Ye/

Supervisory Patent Examiner, Art Unit 2622